

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-4. (Canceled)

5. (Currently Amended) ~~The A~~ magnetoresistive device ~~according to claim 2~~ wherein comprising:

a magnetoresistive element having two surfaces that face toward opposite directions and two side portions that connect the two surfaces to each other;

two bias field applying layers that are located adjacent to the side portions of the magnetoresistive element and apply a bias magnetic field to the magnetoresistive element;
and

two electrode layers that feed a current used for signal detection to the magnetoresistive element, each of the electrode layers being adjacent to one of surfaces of each of the bias field applying layers, wherein:

at least one of the electrode layers overlaps one of the surfaces of the magnetoresistive element;

the magnetoresistive element incorporates: a nonmagnetic layer having two surfaces that face toward opposite directions; a soft magnetic layer adjacent to one of the surfaces of the nonmagnetic layer; a pinned layer, located adjacent to the other one of the surfaces of the nonmagnetic layer, whose direction of magnetization is fixed; and an antiferromagnetic layer located adjacent to one of surfaces of the pinned layer that is farther from the nonmagnetic layer, the antiferromagnetic layer fixing the direction of magnetization of the pinned layer;

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_____ the pinned layer includes a nonmagnetic spacer layer and two ferromagnetic layers that sandwich the spacer layer and have directions of magnetization fixed to opposite directions;

_____ a total length of regions of the two electrode layers that are laid over the one of the surfaces of the magnetoresistive element is smaller than $0.3\text{ }\mu\text{m}$; and

_____ a space between the two electrode layers is equal to or smaller than approximately $0.6\text{ }\mu\text{m}$.

6-9. (Canceled)

10. (Currently Amended) ~~The A method according to claim 7 wherein of~~
manufacturing a magnetoresistive device comprising:

_____ a magnetoresistive element having two surfaces that face toward opposite directions and two side portions that connect the two surfaces to each other;

_____ two bias field applying layers that are located adjacent to the side portions of the magnetoresistive element and apply a bias magnetic field to the magnetoresistive element;
and

_____ two electrode layers that feed a current used for signal detection to the magnetoresistive element, each of the electrode layers being adjacent to one of surfaces of each of the bias field applying layers, the method including the steps of:

_____ forming the magnetoresistive element;

_____ forming the bias field applying layers; and

_____ forming the electrode layers, wherein:

_____ at least one of the electrode layers are located to overlap one of the surfaces of the magnetoresistive element;

_____ the magnetoresistive element incorporates: a nonmagnetic layer having two surfaces that face toward opposite directions; a soft magnetic layer adjacent

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to one of the surfaces of the nonmagnetic layer; a pinned layer, located adjacent to the other
one of the surfaces of the nonmagnetic layer, whose direction of magnetization is fixed; and
an antiferromagnetic layer located adjacent to one of surfaces of the pinned layer that is
farther from the nonmagnetic layer, the antiferromagnetic layer fixing the direction of
magnetization of the pinned layer;

the pinned layer includes a nonmagnetic spacer layer and two
ferromagnetic layers that sandwich the spacer layer and have directions of magnetization
fixed to opposite directions;

a total length of regions of the two electrode layers that are laid
over the one of the surfaces of the magnetoresistive element is smaller than 0.3 μm ; and
a space between the two electrode layers is equal to or smaller
than approximately 0.6 μm .

11-14. (Canceled)

15. (Currently Amended) ~~The~~ A thin-film magnetic head ~~according to claim 12~~
~~wherein comprising:~~

a magnetoresistive element having two surfaces that face toward opposite
directions and two side portions that connect the two surfaces to each other;

two bias field applying layers that are located adjacent to the side portions of
the magnetoresistive element and apply a bias magnetic field to the magnetoresistive element;
and

two electrode layers that feed a current used for signal detection to the
magnetoresistive element, each of the electrode layers being adjacent to one of surfaces of
each of the bias field applying layers, wherein:

at least one of the electrode layers overlaps one of the surfaces of the
magnetoresistive element;

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the magnetoresistive element incorporates: a nonmagnetic layer having two surfaces that face toward opposite directions; a soft magnetic layer adjacent to one of the surfaces of the nonmagnetic layer; a pinned layer, located adjacent to the other one of the surfaces of the nonmagnetic layer, whose direction of magnetization is fixed; and an antiferromagnetic layer located adjacent to one of surfaces of the pinned layer that is farther from the nonmagnetic layer, the antiferromagnetic layer fixing the direction of magnetization of the pinned layer;

the pinned layer includes a nonmagnetic spacer layer and two ferromagnetic layers that sandwich the spacer layer and have directions of magnetization fixed to opposite directions;

a total length of regions of the two electrode layers that are laid over the one of the surfaces of the magnetoresistive element is smaller than 0.3 μm ; and

a space between the two electrode layers is equal to or smaller than approximately 0.6 μm .

16-19. (Canceled)

20. (Currently Amended) ~~The A method according to claim 17 wherein~~
manufacturing a thin-film magnetic head comprising:

a magnetoresistive element having two surfaces that face toward opposite directions and two side portions that connect the two surfaces to each other;

two bias field applying layers that are located adjacent to the side portions of the magnetoresistive element and apply a bias magnetic field to the magnetoresistive element;
and

two electrode layers that feed a current used for signal detection to the magnetoresistive element, each of the electrode layers being adjacent to one of surfaces of each of the bias field applying layers, the method including the steps of:

forming the magnetoresistive element;
 forming the bias field applying layers; and
 forming the electrode layers, wherein:
 at least one of the electrode layers are located to overlap one of
 the surfaces of the magnetoresistive element;
 the magnetoresistive element incorporates: a nonmagnetic layer
 having two surfaces that face toward opposite directions; a soft magnetic layer adjacent to one
 of the surfaces of the nonmagnetic layer; a pinned layer, located adjacent to the other one of
 the surfaces of the nonmagnetic layer, whose direction of magnetization is fixed; and an
 antiferromagnetic layer located adjacent to one of surfaces of the pinned layer that is farther
 from the nonmagnetic layer, the antiferromagnetic layer fixing the direction of magnetization
 of the pinned layer;
 the pinned layer includes a nonmagnetic spacer layer and two
 ferromagnetic layers that sandwich the spacer layer and have directions of magnetization
 fixed to opposite directions;
 a total length of regions of the two electrode layers that are laid
 over the one of the surfaces of the magnetoresistive element is smaller than $0.3\text{ }\mu\text{m}$; and
 a space between the two electrode layers is equal to or smaller
 than approximately $0.6\text{ }\mu\text{m}$.

21. (New) The magnetoresistive device according to claim 5 wherein both of the two electrode layers overlap the one of the surfaces of the magnetoresistive element, and a length of the region of each of the two electrode layers that is laid over the one of the surfaces of the magnetoresistive element is smaller than $0.15\text{ }\mu\text{m}$.

22. (New) The magnetoresistive device according to claim 5 wherein the two bias field applying layers are located off one of the surfaces of the magnetoresistive element.

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23. (New) The method according to claim 10 wherein both of the two electrode layers overlap the one of the surfaces of the magnetoresistive element, and a length of the region of each of the two electrode layers that is laid over the one of the surfaces of the magnetoresistive element is smaller than $0.15\ \mu\text{m}$.

24. (New) The method according to claim 10 wherein the two bias field applying layers are located off one of the surfaces of the magnetoresistive element.

25. (New) The thin-film magnetic head according to claim 15 wherein both of the two electrode layers overlap the one of the surfaces of the magnetoresistive element, and a length of the region of each of the two electrode layers that is laid over the one of the surfaces of the magnetoresistive element is smaller than $0.15\ \mu\text{m}$.

26. (New) The thin-film magnetic head according to claim 15 wherein the two bias field applying layers are located off one of the surfaces of the magnetoresistive element.

27. (New) The method according to claim 20 wherein both of the two electrode layers overlap the one of the surfaces of the magnetoresistive element, and a length of the region of each of the two electrode layers that is laid over the one of the surfaces of the magnetoresistive element is smaller than $0.15\ \mu\text{m}$.

28. (New) The method according to claim 20 wherein the two bias field applying layers are located off one of the surfaces of the magnetoresistive element.
